

## **Water Quality Standards Excerpts, March 18, 2008**

### **9 VAC 25-260-10. Designation of uses.**

A. All State waters, including wetlands, are designated for the following uses: recreational uses, e.g., swimming and boating; the propagation and growth of a balanced, indigenous population of aquatic life, including game fish, which might reasonably be expected to inhabit them; wildlife; and the production of edible and marketable natural resources, e.g., fish and shellfish.

### **9 VAC 25-260-20. General criteria.**

A. State waters, including wetlands, shall be free from substances attributable to sewage, industrial waste, or other waste in concentrations, amounts, or combinations which contravene established standards or interfere directly or indirectly with designated uses of such water or which are inimical or harmful to human, animal, plant, or aquatic life.

Specific substances to be controlled include, but are not limited to: floating debris, oil, scum, and other floating materials; toxic substances including those which bioaccumulate; substances that produce color, tastes, turbidity, odors, or settle to form sludge deposits; and substances which nourish undesirable or nuisance aquatic plant life. Effluents which tend to raise the temperature of the receiving water will also be controlled. Conditions within mixing zones established according to 9 VAC 25-260-20 B do not violate the provisions of this subsection.

B. The board may use mixing zone concepts in evaluating limitations for Virginia Pollutant Discharge Elimination System permits.

1. Mixing zones evaluated or established by the board in freshwater shall not:

- a. Prevent movement of or cause lethality to passing and drifting aquatic organisms through the water body in question;
- b. Constitute more than one half of the width of the receiving watercourse nor constitute more than one third of the area of any cross section of the receiving watercourse;
- c. Extend downstream at any time a distance more than five times the width of the receiving watercourse at the point of discharge.

2. Mixing zones evaluated or established by the board in open ocean, estuarine and transition zone waters (see 9 VAC 25-260-140 C) shall not:

- a. Prevent movement of or cause lethality to passing and drifting aquatic organisms through the water body in question;
- b. Extend more than 5 times in any direction the average depth along a line extending 1/3 of the way across the receiving water from the discharge point to the opposite shore.

3. A subsurface diffuser shall be required for any new or expanded freshwater discharge greater than or equal to 0.5 MGD to open ocean, estuarine and transition zone waters (see 9 VAC 25-260-140 C) and the acute and chronic criteria shall be met at the edge of the zone of initial mixing. The zone of initial mixing is the area where mixing of ambient water and effluent is driven by the jet effect and/or momentum of the effluent. Beyond this zone the mixing is driven by ambient turbulence.

4. Mixing zones shall not be allowed by the board for effluents discharged to wetlands, swamps, marshes, lakes or ponds.

5. An allocated impact zone may be allowed within a mixing zone. This zone is the area of initial dilution of the effluent with the receiving water where the concentration of the effluent will be its greatest in the water column. Mixing within these allocated impact zones shall be as quick as practical and shall be sized to prevent lethality to passing and drifting aquatic organisms. The acute aquatic life criteria are not required to be attained in the allocated impact zone.

6. Mixing zones shall be evaluated or established such that acute criteria are met outside the allocated impact zone and chronic criteria are met at the edge of the mixing zone.

7. No mixing zone shall be used for, or considered as, a substitute for minimum treatment technology required by the Clean Water Act and other applicable state and federal laws.

8. The board shall not approve a mixing zone that violates the federal Endangered Species Act of 1973 (16 USCA §§ 1531-1543) or the Virginia Endangered Species Act, Article 6 (§ 29.1-563 et seq.) of Chapter 5 of Title 29.1 of the Code of Virginia.

9. The board may waive the requirements of subdivisions B 1 b and c, B 2 b, B 3 and B 4 of this subsection on a case by case basis if:

a. The board determines that a complete mix assumption is appropriate; or

b. A discharger provides an acceptable demonstration of:

(1) Information defining the actual boundaries of the mixing zone in question; and

(2) Information and data demonstrating no violation of subdivisions B 1 a, 2 a and B 7 of this subsection by the mixing zone in question.

10. The size of a thermal mixing zone shall be determined on a case-by-case basis. This determination shall be based upon a sound rationale and be supported by substantial biological, chemical, physical, and engineering evidence and analysis. Any such determination shall show to the board's satisfaction that no adverse changes in the protection and propagation of balanced indigenous populations of fish, aquatic life, and wildlife may reasonably be expected to occur. A satisfactory showing made in conformance with § 316(a) of the Clean Water Act shall be deemed as compliance with the requirements of this section.

11. Notwithstanding the above, no new or expanded mixing zone shall:

a. Be allowed in waters listed in 9 VAC 25-260-30 A 3 c;

b. Be allowed in waters defined in 9 VAC 25-260-30 A 2 for new or increased discharges unless the requirements outlined in 9 VAC 25-260-30 A 2 are satisfied.

**9 VAC 25-260-30. Antidegradation policy.**

A. All surface waters of the Commonwealth shall be provided one of the following three levels, or tiers, of antidegradation protection. This antidegradation policy shall be applied whenever any activity is proposed that has the potential to affect existing surface water quality.

1. As a minimum, existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

2. Where the quality of the waters exceed water quality standards, that quality shall be maintained and protected unless the board finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the Commonwealth's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the board shall assure water quality adequate to protect existing uses fully. Further, the board shall assure that there shall be achieved the highest statutory and regulatory requirements applicable to all new or existing point source discharges of effluent and all cost-effective and reasonable best management practices for nonpoint source control.

3. Surface waters, or portions of these, which provide exceptional environmental settings and exceptional aquatic communities or exceptional recreational opportunities may be designated and protected as described in subdivisions 3 a, b and c of this subsection.

a. Designation procedures.

(1) Designations shall be adopted in accordance with the provisions of the Administrative Process Act (§ 2.2-4000 et seq. of the Code of Virginia) and the board's public participation guidelines.

(2) Upon receiving a nomination of a waterway or segment of a waterway for designation as an exceptional state water pursuant to the board's antidegradation policy, as required by 40 CFR 131.12, the board shall notify each locality in which the waterway or segment lies and shall make a good faith effort to provide notice to impacted riparian property owners. The written notice shall include, at a minimum: (i) a description of the location of the waterway or segment; (ii) the procedures and criteria for designation as well as the impact of the designation; (iii) the name of the person making the nomination; and iv the name of a contact person at the Department of Environmental Quality who is knowledgeable about the nomination and the waterway or segment. Notice to property owners shall be based on names and addresses taken from local tax rolls. Such names and addresses shall be provided by the Commissioners of the Revenue or the tax assessor's office of the affected jurisdiction upon request by the board. After receipt of the notice of the nomination, localities shall be provided 60 days to comment on the consistency of the nomination with the locality's comprehensive plan. The comment period established by subdivision 3 a (2) of this subsection shall in no way impact a locality's ability to comment during any additional comment periods established by the board.

b. Implementation procedures.

(1) The quality of waters designated in subdivision 3 c of this subsection shall be maintained and protected to prevent permanent or long-term degradation or impairment.

(2) No new, additional, or increased discharge of sewage, industrial wastes or other pollution into waters designated in subdivision 3 c of this subsection shall be allowed.

(3) Activities causing temporary sources of pollution may be allowed in waters designated in subdivision 3 c of this subsection even if degradation may be expected to temporarily occur provided that after a minimal period of time the waters are returned or restored to conditions equal to or better than those existing just prior to the temporary source of pollution.

c. Surface waters designated under this subdivision are as follows:

(18 Exceptional Waters or Tier 3 designations follow paragraph c of section 30.)

<b>9 VAC 25-260-50. Numerical criteria for dissolved oxygen, pH, and maximum temperature.***</b>					
CLASS	DESCRIPTION OF WATERS	DISSOLVED OXYGEN (mg/L)****		pH	Maximum Temp. (°C)
		Min.	Daily Avg.		
I	Open Ocean	5.0	--	6.0-9.0	--
II	Tidal Waters in the Chowan Basin and the Atlantic Ocean	4.0	5.0	6.0-9.0	--
II	Tidal Waters in the Chesapeake Bay and its tidal tributaries	see 9 VAC 25-260-185		6.0-9.0	
III	Nontidal Waters Coastal and Piedmont Zones	4.0	5.0	6.0-9.0	32

(Several additional classes of waters IV – VII not included as they don't apply here)

**9 VAC 25-260-140. Criteria for surface water.**

Table of Parameters (example)

PARAMETER CAS Number	USE DESIGNATION					
	AQUATIC LIFE				HUMAN HEALTH	
	FRESHWATER		SALTWATER		Public Water Supply <sup>3</sup>	All Other Surface Waters <sup>4</sup>
	Acute <sup>1</sup>	Chronic <sup>2</sup>	Acute <sup>1</sup>	Chronic <sup>2</sup>		
<b>Heptachlor Epoxide (mg/l)</b> 1024573 Known or suspected carcinogen; human health criteria at risk level 10 <sup>-5</sup> .	0.52	0.0038	0.053	0.0036	0.0010	0.0011

(Over 100 numerical criteria to protect aquatic life and/or human health are listed under section 140. This is just an example.)

**9 VAC 25-260-185 Criteria to protect designated uses from the impacts of nutrients and suspended sediment in the Chesapeake Bay and its tidal tributaries.**

(Nutrient related criteria for dissolved oxygen, submerged aquatic vegetation, water clarity and chlorophyll are in section 185 but not included here. They apply to the Bay watersheds.)

**9 VAC 25-260-270. Shellfish buffer zones; public hearing.**

Before acting on any proposal for a project that, while not contravening established numeric criteria for shellfish waters, would result in condemnation by the State Health Department of shellfish beds, the board shall convene a public hearing to determine the socio-economic effect of the proposal. Such proposals include discharge of treated waste or proposals to otherwise alter the biological, chemical or physical properties of state waters. If the Marine Resources Commission or the Virginia Institute of Marine Science certify that the project would have no effect on the shellfish use now and in the foreseeable future, the board may dispense with such hearing.

When the board finds that the proposed project will result in shellfish bed condemnation and if the condemnation will violate the general standard, it shall disapprove the proposal.

**9 VAC 25-260-310. Special standards and requirements.**

The special standards are shown in small letters to correspond to lettering in the basin tables. The special standards are as follows:

a. Shellfish waters. In all open ocean or estuarine waters capable of propagating shellfish or in specific areas where public or leased private shellfish beds are present, including those waters on which condemnation or restriction classifications are established by the State Department of Health, the following criteria for fecal coliform bacteria will apply:

The geometric mean fecal coliform value for a sampling station shall not exceed an MPN (most probable number) of 14 per 100 milliliters. The 90<sup>th</sup> percentile shall not exceed an MPN of 43 for a 5-tube, 3-dilution test or 49 for a 3-tube, 3-dilution test.

The shellfish area is not to be so contaminated by radionuclides, pesticides, herbicides, or fecal material that the consumption of shellfish might be hazardous.

**9 VAC 25-260-520. Chesapeake Bay, Atlantic Ocean and small coastal basins.**

<b>SEC.</b>	<b>CLASS</b>	<b>SP. STDS.</b>	<b>SECTION DESCRIPTION</b>
1	I	a	The Atlantic Ocean from Cape Henry Light (Latitude 36°55'06" North; Longitude 76°00'04" West) east to the three mile limit and south to the North Carolina state line. The Atlantic Ocean from Cape Henry Light to Thimble Shoal Channel (Latitude 36°57'30" North; Longitude 76°02'30" West) from Thimble Shoal Channel to Smith Island (Latitude 37°07'04" North; Longitude 75°54'04" West) and north to the Virginia-Maryland state line.
1a	III		All free flowing portions of the streams, creeks and coves in Section 1 east of the east-west divide boundary on the Eastern Shore of Virginia.
1b	II	a	Tidal portions of streams, creeks and coves in Section 1 east of the east-west divide boundary on the Eastern Shore of Virginia.
2	II	a,NEW-20	Chesapeake Bay and its tidal tributaries from Old Point Comfort Tower (Latitude 37°00'00" North; Longitude 76°18'08" West) to Thimble Shoal Light (Latitude 37°00'09" North; Longitude 76°14'04" West) to and along the south side of Thimble Shoal Channel to its eastern end (Latitude 36°57'03" North; Longitude 76°02'03" West) to Smith Island (Latitude 37°07'04" North; Longitude 75°54'04" West) north to the Virginia-Maryland border following the east-west divide boundary on the Eastern Shore of Virginia, west along the° Virginia-Maryland border, to the Virginia Coast, (Latitude 37°53'23" North; Longitude 76°14'25" West) and south following the Virginia Coast to Old Point Comfort Tower (previously described), unless otherwise designated in this chapter.
2a	III		Free flowing portions of streams lying on the Eastern Shore of Virginia west of the east-west divide boundary unless otherwise designated in this chapter.
2b	III		Drummonds Millpond including Coards Branch.
2c	III		The Virginia Department of Agriculture experimental station pond and its tributaries.
2d	III		The free flowing streams tributary to the western portion of the Chesapeake Bay lying between the Virginia-Maryland state line and Old Point Comfort.
2e	III	PWS	Harwood's Mill Reservoir (in Poquoson River's headwaters - a source of water for the City of Newport News) and its tributaries.
2f	III	PWS	Brick Kiln Creek and its tributaries from Fort Monroe's raw water intake (at the Big Bethel Reservoir) to points 5 miles upstream.

2g	III	PWS	Beaverdam Swamp and its tributaries (including Beaverdam Swamp Reservoir) from the Gloucester County Water System raw water intake (at latitude 37°26'23"; longitude 76°32'47") to its headwaters.
3	II	a,NEW-20	Chesapeake Bay from Old Point Comfort (Tower Latitude 37°00'00" North; Longitude 76°18'08" West) to Thimble Shoal Light (Latitude 37°00'09" North; Longitude 76°14'04" West) along the south side of Thimble Shoal Channel to Cape Henry Light (Latitude 36°55'06" North; Longitude 76°00'04" West.)
3a	II	a,NEW-20,z	Little Creek from its confluence with Chesapeake Bay (Lynnhaven Roads) to end of navigable waters.
3b	II	a,NEW-20	Tidal portions of Lynnhaven watershed from its confluence with the Chesapeake Bay (Lynnhaven Roads) to and including Lynnhaven Bay, Western Branch Lynnhaven River, Eastern Branch Lynnhaven River, Long Creek, Broad Bay and Linkhorn Bay, Thalia Creek and its tributaries to the end of tidal waters. Great Neck Creek and Little Neck Creek from their confluence with Linkhorn Bay and their tidal tributaries. Rainey Gut and Crystal Lake from their confluence with Linkhorn Bay.
3c	III		Free flowing portions of streams in Section 3b, unless otherwise designated in this chapter.
3d	III	PWS	The impoundments on the Little Creek watershed including Little Creek Reservoir, Lake Smith, Lake Whitehurst, Lake Lawson, and Lake Wright.
3e	II	NEW-20	London Bridge Creek from its confluence with the Eastern Branch of Lynnhaven River to the end of tidal waters. Wolfsnare Creek from its confluence with the Eastern Branch Lynnhaven River to the fall line.
3f	III		Free flowing portions of London Bridge Creek and Wolfsnare Creek and their free flowing tributaries.
3g	III		Lake Joyce and Lake Bradford.

(Potomac, James, Rappahannock and York Rivers tidal waters also have shellfish special standard "a" but are not listed here.)